APPENDIX 5 - Biological Evaluation For Special Status Plant Species/Survey & Manage Species And Noxious Weeds

Level II Clearance

Legal Description: T.2N., R.2W., Sec. 7, 15, 17, 21,

T.2N., R.3W., Sec.3

T.3N., R.3W., Sec.9,21,27,29,33

Project name: Plentywater Creek Project

Preparer/Title: Kurt W. Heckeroth (Forest technician) **Date Prepared:** October 23, 2001

I. PREFIELD REVIEW (Level 1 Clearance)

A. General habitat description:

Acres: T2N.,R2w.,sect. 7	81ac
T2N.,R2w.,sect.15	104ac
T2N.,R2w.,sect.17	24ac
T2N.,R2w.,sect.21	75ac
T2N.,R3w.,sect. 3	181ac
T3N.,R3w.,sect. 9	40ac
T3N.,R3w.,sect.21	126ac
T3N.,R3w.,sect.27	115ac
T3N.,R3w.,sect.29	28ac
T3N.,R3w.,sect.33	18ac

Elevation Range: T.2N., R.2W. 500' - 1200'

T.3n., R.3W. 380' - 1640'

Habitat:

<u>Mixed conifer/deciduous forest</u> dominated by 30 to 80 year *Pseudotsuga menziesii* with and understory of *Acer macrophyllum*.

Riparian:

Streams:

Wet meadows, bogs (sphagnum, peat), seeps, marshes, ponds, lake margins, muddy elk wallows

Vernally wet pools, seeps, springs, floodplains

<u>Dry</u> meadows, grassy areas, ridges, slopes

<u>Rocky</u> soils, ridgetops, crevices, outcrops, cliffs, talus/scree, wet rock walls, and rocky/gravelly streambeds & banks.

Known sites in the vicinity of the proposed action:

Cimicifuga elata (tall bugbane): This sensitive plant species has a known site located in unit 21-2. BLM has partnered in a challenge cost share project with USDA Forest Service, and the Oregon Department of Agriculture to gather data on the distribution and biology for use in producing management protocols. Current recommendations include reduced efforts to monitor populations (i.e., monitoring at fewer sites and lower frequency, and targeted monitoring for populations expected to receive forest harvest treatments. Minimal buffers may be necessary to protect the species from disturbance associated with timber removal, and forest thinning may actually improve conditions for the species. The known site in unit 21-2 is located adjacent to a proposed regeneration harvest area and will have a 50 ft. buffer.

Recommended season of reconnaissance:

May through August - Vascular, Bryophyte, Lichen species September through December - Fall Fungi March through June - Spring Fungi

II. FIELD RECONNAISSANCE (Level 2 Clearance)

Survey Completion Date(s):

Botanical surveys for Plentywater Creek project area began in June 2000. Special status plant species surveyed for included: Species listed under the BLM Manual 6840 categories, Survey & Manage Species listed under the Salem District Record of Decision dated 1995, and any species listed under the Endangered Species Act.

Surveyor(s) Name:	Fungi	-Southern Oregon Ecological
		Matt Hoover
		Jordan Mayor
	Vascular	-Environmental Consultants Ore.
	Nox./Weed	Orin C. Schumcher
		Christopher A Borg
		Karen A. Tate
		Lichen /
		-Rhizosphere, LLC
	Bryophyte	Abraham Svoboda
		Shana Gross
		Richard Gaines
		Kate Sullivan
	Tetraphis	-Tillamook Resource Area Staff
	-	Heckeroth
		Pampush
	Buxbaumia	-Tillamook Resource Area Staff
		Heckeroth
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Special Status Species Found: None. A potential *Botrychium sp.* site was identified in T2N, R3W, Sect. 07 but was never verified. BLM staff returned to the site in FY01. The person that located the potential site indicated they were not sure whether it was *Botrychium sp.* and a sample was not taken therefore verification as a known site was not possible.

Survey and Manage Species Found:

Table 2. This table displays the listed species identified during field surveys. In January, 2001 there was an amendment to the S&M (Survey and Manage) requirements specified in the NFP ROD, (Northwest Forest Plan Record of Decision). This table reflects the change in status for Survey and manage species identified in this project area. For information regarding all changes in S&M species status refer to the Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, Jan., 2001.

<u>SPECIES</u>	*SURVEY & MANAGE STATUS				
	NWFP ROD 1995	S&M ROD 2001			
Otidea leporina	Prot.Buffer/Strat. 3	Category B			
Otidea onotica	Prot.Buffer/Strat. 3	Category F			
Bondarzewia mesenterica	Strategy 1,2&3	Category B			
Helvella maculata	Strategy 1&3	Category B			
Sowerbyella rhenana	Prot.Buffer/Strat 1,3	Category B			
Peltigera collina	Strategy 4	removed from list			
Lobaria pulmonaria	Strategy 4	removed from list			
Peltigera pacifica	Strategy 4	Category E			
Nephroma resupinatum	Strategy 4	removed from list			
Sticta fulignosa	Strategy 4	removed from list			
Cetrelia cetrarioides	Strategy 4	Category E			
Sticta limbata	Strategy 4	removed from list			
Lobaria scrobiculata	Strategy 4	removed from list			
Antitrichia curtipendula	Strategy 4	removed from list			
*Tetraphis, spp	Prot.Buffer/Strat 1,3	Category A			
*Buxbaumia, spp	Prot.Buffer	D1			

^{*}Both *Buxbaumia* and *Tetraphis* were located, during contract surveys, within the Plentywater Project Area but were not identified to species. Additional surveys have been conducted by BLM staff to assure proper identification /verification for *Tetraphis*, *geniculata* in units 3,15,21, & 21A. and additional surveys have also been conducted to verify each *buxbaumia spp* site. No sites were identified as *Tetraphis*, *geniculata* or *Buxbaumia*, *viridis*. All sites that cannot be verified will not be considered as known sites.

Description of project area and general remarks on survey results:

The Plentywater Creek Project area consisted of 50-70 year old *Pseudotsuga menziesii* forests. They were densely stocked stands with a canopy closure of 60%-70%. Areas of less significant canopy density commonly contained well established mixed stands of Alnus rubra, Acer macrophyllum, and Thuja plicata. Section 15 had a well established Abies grandis component. All units were mesic with gentle to moderate slopes from 5% to 25%. The dominant understory species was Acer circinatum. The abundance of Acer circinatum was directly related to canopy density. Other common understory species encountered were Holodiscus discolor and Corylus cornuta, Gaultheria shallon, Pteridium aquilinum, and Polystichum munitum.

The majority of surveyed units contained riparian habitat. The stand composition of this habitat area consisted of Alnus rubra, Acer macrophyllum, Acer circinatum, Polystichum munitum, and occasionally Oplopanax horridum. Pseudotsuga menziesii, Tsuga heterophylla, and Thuja plicata were common but rarely abundant within the riparian habitat.

Draws, steep ravines, and shallow gullies were common throughout the survey area. These features allowed for a thicker understory and shrub layer due to the patchiness in the canopy.

Noxious Weeds found:

Cirsium vulgare, Cirsium arvensis, Hedera helix, Hypericum perforatum, Rubus discolor, Rubus laciniatus, Ilex aquifolium, Senecio jacobaea, and Cytisus scoparius.

A complete list of all botanical species identified during the field survey is attached to this report.

III. **IMPACT ANALYSIS**

Survey and Manage Species:

In January 2001 an Amendment to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines was adopted. This Amendment replaces the Survey and Manage Species portions of the Supplemental Environmental Impact Statement of December 1999 and the NFP ROD (April 1994).

Otidea leporina, Bondarzewia mesenterica, Helvella maculata, and Sowerbyella rhenana are Category B Survey and Manage fungi species under the January 2001 Amendment. Management of all known sites for category B species is required (pg 9 and 11 of Standards and Guidelines, Jan 2001). Otidea onotica is a Category F Survey and Manage Species. (Table 1.1 Record of Decision and Standards and Guidelines Jan. 2001) Management of known sites for category F species is not required, (page 13 Standard and Appendix 5 – page 4

Guidelines Jan. 2001).

Other survey and manage species found within the Plentywater Creek Project were Strategy 4 species under Supplemental Environmental Impact Statement (December 1999). All of these species have been removed from the survey and manage list in all or part of their range (refer to table 1-2 of the current Standards and Guidelines dated Jan. 2001).

Noxious Weeds:

All noxious weeds identified within the project area were Priority II and Priority III. These weed species are commonly found throughout Western Oregon. New road construction and other ground-disturbing activities, (such as yarding roads, landings. etc), offer the most likely places for noxious/exotic weeds to become further established. Some degree of noxious/exotic weed introduction or spread is probable as management activities occur in the project areas. Skid trails, landings, and bank stabilization, (soil disturbance), would be the most likely places for weed establishment.

IV. ANALYSIS OF SIGNIFICANCE OF EFFECTS

Survey and Manage Species:

Helvella maculata: produces solitary to gregarious sporocarps in a wide variety of habitats including suburban habitats and rotation age conifer stands. Although this is a category B species, the Management Recommendations for S&M fungi Sept. 1997 states, Athis taxa does not appear to be in need of special protection beyond that provided by the Northwest Forest Plan and the prospects of sustained habitat viability are excellent (group 25-8). Proposed project activities for the Plentywater Creek Project do not threaten species viability.

Otidea leporina, Bondarzewia mesenterica, and Sowerbyella rhenana: Threats to these taxa are actions that disrupt stand conditions necessary for their survival particularly damage to overstory trees and soil, litter, and duff disturbance. Management Recommendations for S&M fungi Sept. 1997 states, "Maintain habitat for all taxa at known sites by retaining old-growth forest structure and soil conditions. Avoid disturbance at known sites, including fire, logging, and road, trail, or campground construction until additional data is collected on taxon viability." Proposed project activities for Plentywater Creek Project will not impact individual sites, as plans to maintain existing microsite conditions by buffering should protect each known site and ensure species viability.

Peltigera pacifica: Found on substrates of soil, moss, logs, and tree bases. Even though this species has been located within or on the boundary of riparian reserves buffering will be used to maintain existing microclimate if needed. Thinning vs regeneration harvest will have different impacts to S&M sites and buffers will be adjusted accordingly.

Cetrelia cetrarioides: Found within riparian reserves, proposed project activities for Plentywater Creek Project do not threaten species viability.

3.2.1.2.1 Alternative 1 (No Action)

No adverse impacts to the survey and manage species found in these units would be expected to occur under this alternative.

3.2.1.2.2 Alternative 2 (Proposed Action)

Forest Management on GFMA/matrix lands: In this alternative cable yarding and ground base yarding would occur. Ground based yarding can be expected to disturb the litter layer, soil, and woody debris to a greater extent than would cable yarding. Because all of the survey and manage species found grow in those substrates they could be negatively impacted. Verified sites that are recommended to have buffer protection will be individually assessed to establish strategies in maintaining their existing microclimate, therefore eliminating or reducing the impact to those sites.

Fish Habitat Enhancement: This project has design features that will alter the existing riparian plant habitat or plant communities. Within the range of natural variability alteration of these sites, although accelerated, would not be outside its natural balance. Fungi surveys were completed in Nov 2000 with three site visits which indicated no Survey and manage species were found. *Vascular plant, Noxious Weed, Lichen and Bryophyte surveys will be conducted prior to signing of final Record of Decision*.

The Road Stabilization project has no known Bureau sensitive and special attention plant species / habitat located within the project area. Since the proposed action does not entail any "habitat disturbing" action, there is no requirement to perform pre-project surveys.

Fish and Wildlife habitat enhancement and campground/soil reclamation projects on GFMA/Matrix lands: The potential for impacts during the Wildlife Enhancement Project on Survey and Manage species would be mitigated by the project design criteria, such as: felled trees would be selected and felled in such a way as to avoid impacting existing decay class 3,4, and 5 down woody debris which is greater than 15 inches in diameter; a Qualified field botanist, Wildlife Biologist, or trained staff would be involved in selecting all trees to be felled. This would reduce the potential for impacts to any individual species that require a specific microclimate. The proposed openings in the canopy would not be significant enough to adversely alter the existing habitat, therefore no impacts to species viability will occur.

3.2.1.2.3 Alternative 3. (Soil and Water)

Same as Alternative 2 even though ground based yarding would be eliminated in commercial thinning areas. The impacts of cable yarding will present disturbance but will not impact species viability.

3.2.1.2.3 Alternative 4. (Urban Interface)

Same as Alternative 2.

<u>Noxious Weeds:</u> No appreciable increase in most noxious weed / invasive exotic populations identified during the field surveys is expected to occur. Within the thinning units, any increase that does occur should be mostly confined to road corridors and would be expected to decrease over time as native species re-vegetate. Where *Hedera helix* (English Ivy) is located, (T2N, R2W, S21 and T2N, R2W, S15), efforts to control those populations will be introduced. Hand cutting, pulling, and piling will be accomplished prior to harvest activities. Controlled pile burning will also be used to reduce re-sprouting of piled plant material. Post harvest treatments of manually cutting and/or pulling the new shoots of *Hedera* will be implemented based on need identified during annual monitoring. Native plant species will be planted to overtop the *Hedera* and control the site when native plant material is available.

<u>Effects of Alternatives</u> - The vehicle traffic associated with the alternatives could continue to contribute to the spread of noxious/exotic weeds along logging roads. With regular monitoring and treatment programs (as planned), none of the alternatives would be expected to adversely increase noxious/exotic weeds beyond controllable levels. There are planned activities to control Scotch broom and English Ivy.

<u>Alternative 1</u> - Would increase the spread of noxious/exotic weeds because no action would occur. Both English Ivy and Scotch broom persist within the project boundaries. This action would eliminate the control of these sites. Should no action occur these known sites could be expected to spread.

<u>Alternative 2</u> - Would have potential to increase the spread of noxious/exotic weeds because of ground disturbance associated with the proposed actions.

Alternative 3 - Same as Alternative 2 above.

Alternative 4 - Same as Alternative 2 above.

<u>Cumulative Effects</u> - Vehicle traffic associated with the foreseeable actions would continue to contribute to the spread of noxious/exotic weeds along freshly open logging roads (and any new roads that might be built). Transported seed will establish mostly

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along open roads and any freshly disturbed areas. Weeds would be expected to move from the existing road corridors into these disturbed areas but should decline once the natural vegetation becomes established again.

V. RECOMMENDATIONS

- 1. Noxious/exotic weed monitoring and control methods have been planned. These methods will likely slow the spread of existing populations and limit new introductions. All earth moving equipment is to be cleaned and free of soil, brush, and weeds before entering BLM administered lands to prevent the spread of any noxious weed species.
- 2. For the Fish and Wildlife habitat enhancement and campground/soil reclamation projects on GFMA/Matrix lands, felled trees would be selected and felled in such a way as to avoid impacting existing decay class 3,4, and 5 down woody debris which is greater than 15 inches in diameter plus a Qualified field botanist, a Wildlife Biologist or trained staff would be involved in selecting all trees to be felled.

Lichen and Bryophyte species searched for in Plentywater Creek Project

6840 (State Office list for Salem district) D=documented, S=suspected, U=unknown

Type: b=bryophyte, l=lichen

Ref: references for bryophytes, page in Lawton

SPECIES & STATUS	HABITAT	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
BUREAU SENSITIVE (BS)	10					<u> </u>
Sulcaria badia Brodo & D. Hawksw.	Cr, Km, WV; CA, WA; Bent, Coos, Doug, Jose			1		S
ASSESSMENT SPECIES (AS)						
Andreaea schofieldiana B. Murr.	KM: CA, BC; Curr			b		D
Barbilophozia lycopodioides (wallr.) Loeske Giant fourpoint, maple liverwort	CR; Bake, Clat, Linn, Gran peaty or highly organic soils in forest with regular snowfall	mid-high		b		S
Calypogeia sphagnicola (H. Arn. & Perss.) K. Muell. Bog pouchwort	WC, CR; Clac, Coos, Curr, Lane, Linc, Linn, Till sphagnum containing wetlands, associated with Drosera, Tofielda, Ledum, Carex, Kalmia, Spirea, Trientalis, Vaccinium			b		D
Diplophyllum plicatum Lindb.	CR; Clat, Coos, Linc West slope of the Cascades where cool, humid conditions occur. Substrates include: decayed wood, down logs, conifer trunks, moist north facing cliffs, shaded cliff crevices along river and stream banks, soil of upturned roots			b		S
Encalypta brevipes Schljak stubby extinguisher moss	CR; Clat soil on ledges and in crevices on cliffs, usually on igneous or siliceous rocks, Fog			b	115	U
Erioderma sorediatum D.J. Galloway & P.M. Jørg.	CR; Coos, Lane, Linc			1		U
Gymnomitrion concinnatum (Lightf.) Corda	WC; Hook, Mult peaty soil often assoc. w/ cliffs & rocks	subalp		b		S
Herbertus aduncus (dicks.) S.F. Gray	CR, WC; Clat, Mult on a variety of substrates, areas w/high moisture and moderate temperatures	various		b		S
Herbertus sakuraii (Warnst.) Hatt. Pacific scissorleaf	CR; Clat, usu. on peaty substrates where constantly cool and moist			b		S
Hypogymnia pulverata (Nyl. Ex Crombie) Elix	CR; Till			1		D
Hypogymnia subphysodes (Kremp.) Filson	CR; Lane			1		S
Iwatsukiella leucotricha (Mitt.) Buck & Crum	CR; Clat Bark of conifers & alders, along ridges subject to fog, wet areas along immed. coast. Silver fir zone at mid-high elev. Forms mats w/ other bryophytes	various		b		S
Lobaria linita (Ach.) Rabenh.	CR; Linn, Polk			1		D
Lophozia laxa (Lindb>) Grolle	CR, WC; Lane, Linn, Till growing among sphagnum			b		S

SPECIES & STATUS	HABITAT	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
Metzgeria temperata Kuwah. nubbly daintyribbons	CR; Till On tree trunks usually shaded near the coast in mats or mixed w/ other bryos			b		S
Micromitrium tenerum (Bruch & Schimp. in B.S.G.) Crosby	WV; BC; Bent, Linn			b		S
Physcomitrella patens (Hedw.) Bruch & Schimp. in B.S.G.	WV; BC, MB; Bent			b		S
Pilophorus nigricaulis Sato	CR, WC; Clat, Linn, Mari, Mult on rock, cool moist rocky slopes			1		D
Plagiochila semidecurrens var.alaskana (Evans) H. Inoue	CR; Clat On wet rocks & trees, moist n-facing slopes			b		S
Pohlia sphagnicola (Bruch & Schimp.) Lindb. & Arnell Sparse hummock moss, Nodding bog moss	CR; Till, Lane growing amongst sphagnum on top of hummocks			b		S
Polytrichum strictum Brid. (= P. juniperum affine) Hummock haircap, slender haircap, narrow-leaved haircap	CR; Clat scattered individually or forming loose turfs on organic soils, particularly on top of sphagnum hummocks, in coastal and montane mires			b	42	S
Radula brunnea Steph.	CR; Clat Peaty ledges on cliffs sheltered by ridgetops, grows in mats			b		S
Rhytidium rugosum (Hedw.)Kindb. crumpled-leaf moss, droop-branch moss, beruffled moss	CR; Clat forming loose mats over dry exposed rocks or on dry soil, usu on the sloping sides and tops of dry bluffs and cliffs. Fog			b	331	S
Schistostega pennata (Hedw.) Web. & Mohr	CR; Polk			b		D
Sticta arctica Degel.	CR; Clat			1		S
Teloschistes flavicans (Sw.) Norman	CR; Coos, Curr, Till on bark or wood in coastal headland forests			1		D
Tetraplodon mnioides (Hedw.) Bruch & Schimp. in B.S.G. Black-fruited stink moss, dung moss	CR, WC; Lane, Linc, Mari forming stiff, densely packed sods in old dung or soil and rotten wood enriched by dung, in peatlands as well as drier uplands such as forests, old clearcuts and along roads and trails. Ephemeral			b	161	D
Tritomaria exsectiformis (Breidl.) Loeske forest brownwort	WC; Desc, Jeff, Okan, Wash On peaty or humic soil or rotting wood, often on creek banks where perpetually shady, cool and moist	3200- 5100 ft		b		S
Tritomaria quinquedentata (Huds.) Buch	CR; Clat Organic substrates where shady, cool, & moist. Soil over rock			b		S
TRACKING SPECIES (TS)						
Anomobryum filiforme (Dicks.) Solms in Rabenhorst	CR, WC; Bake, Clat, Klam			b	185	S
Barbilophozia barbata (Schmid.) Loeske	CR; Clat Peaty soil or organic substrate, often assoc. w/ rock outcrops			b		S

SPECIES & STATUS	НАВІТАТ	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
Bruchia bolanderi Lesq. Bolander=s candle moss, Bolander=s pygmy moss	WC; Clac, Desc, Lane, Klam occurring as individual plants among grasses, or forming large colonies in openings, on moist disturbed soil with organic content, shaded to partial sun in the subalpine zone. Montane meadows and streambanks. Disturbed sites with minimal vegetation			b		S
Bryoria bicolor (Ehrh.)Brodo & D. Hawksw.	CR; Clat, Till, Linc			1		S
Bryoria subcana (Nyl. Ex Stizenb.) Brodo & D. Hawksw	CR, WC; Bent, Clac, Clat, Coos, Lane, Till wet Picea, Abies and Pseudotsuga forest within 50 miles of coast	low-high		1		S
Fissidens grandifrons Brid.	CR, KM, WC; CA, BC, NV; Curr, Doug, Mult			b		S
Hedwigia stellata Hedenas	WC; Mari, Mult, Polk, Whee, Yamh			b		S
Ochrolechia subplicans (Nyl.) Brodo	CR; Clat			1		S
Pannaria rubiginosa (Ach.) Bory	CR, WC; Lane, Linc, Mari			1		D
Physcomitrium immersum Sull.	WV; CA, WA, BC, MB; Bent, Linn			b		S
Platyhypnidium riparioides (Hedw.) Dix.	CR, WC; Coos, Lane, Linc, Till			b	302	S
Pressia quadrata (Scop.) Nees Blister-ribbon	BM, WV; Bake, Mult, Wall terrestrial on damp mineral soil w/ other thalloid liverworts, sandy river, calcareous substrates			b		S
Pseudocyphellaria rainierensis Imshaug	CR, WC; Clac, Lane, Linc, Linn, Mari, Polk, Till usu on conifers, moist old-growth forests	low-mid		1		D
Rhizomnium nudum (Britt. & Williams) T. Kop.	CR, WC, BM; Bake, Clac, Linc, Linn, Wall			b		S
Thamnobryum neckeroides (Hook.) Lawt.	WC; Lane, Linn, Mult			b	245	S
Usnea hesperina Mot.	CR, WV; Bent, Coos, Curr, Doug, Jack, Lane, Linn, Till			1		S
Usnea rubicunda Stirton	CR; Coos, Lane, Linc, Till			1		S

Lichen and Bryophyte Survey and Manage species searched for in Plentywater Creek Project

Troject		CAT	FEGORIES	RIES			
<u>SPECIES</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	
Lichens							
Rare Forage Lichen							
Bryoria tortuosa	X						
Rare Leafy (arboreal) Lichens							
Hypogymnia duplicata	$\boldsymbol{\mathcal{X}}$						
Tholurna dissimilis		\mathcal{X}					
Rare Nitrogen-fixing Lichens							
Dendriscocaulon intricatulum		$\boldsymbol{\mathcal{X}}$					
Lobaria linita		$\boldsymbol{\mathcal{X}}$					
Nephroma occultum		\mathcal{X}					
Pannaria rubiginosa				$\boldsymbol{\mathcal{X}}$			
Pseudocyphellaria rainierensis	\mathcal{X}						
Nitrogen-fixing Lichens							
Lobaria oregana	$\boldsymbol{\mathcal{X}}$						
Nephroma bellum					$\boldsymbol{\mathcal{X}}$		
Pannaria saubinetii					\mathcal{X}		
Peltigera pacifica				X			
Pin Lichens							
Calicium abietinum		x					
Calicium adspersum		30		X			
Calicium glaucellum					\boldsymbol{x}		
Calicium viride					$\boldsymbol{\mathcal{X}}$		
Chaenotheca chrysocephala		\mathcal{X}					
Chaenotheca ferruginea		\mathcal{X}					
Chaenotheca furfuracea					X		
Chaenotheca subroscida				x			
Chaenothecopis pusilla Microcalicium arenarium		х		X			
Stenocybe clavata		х		X			
·							
Riparian Lichens							
Cetralia cetrarioides				X			
Collema nigrescens Leptogium cyanescens	X				X		
Platismatia lacunosa	λ		X				
Ramalina thrausta	χ						
Usnea longissima	X						
A quotio Lichans							
Aquatic Lichens Leptogium rivale		X					
Deprogram rivate		л					

<u>SPECIES</u>	<u>A</u>	CAT <u>B</u>	EGORIES C		<u>D</u>	<u>E</u>	<u>F</u>
Rare Oceanic-Influenced Lichens							
Buellia oidalea				J	C		
Hypogymnia oceanica							X
Niebla cephalota Pseudocyphellaria mougeotiana	X	х					
Teloschistes flavicans	х	λ					
Usnea hesperina	х	х					
r							
Oceanic-Influenced Lichens							
Pyrrhospora quernea				J	С		
Additional Lichen Species							
Heterodermia sitchensis				X	C		
Hygomnia vittiata				J	C		
Hypotrachyna revoluta				J	C		
Ramalina pollinaria				X	C		
Nephroma isidiosum				J	С		
B 1.4							
Bryophytes Brotherella roelli				_	_		
				J	C		
Buxbaumia viridis			X				
Diplophyllum albicans			X				
Diplophyllum plicatum		X					
Encalypta brevicolla var. crumiana		X					
Herbertus aduncus		X					
Iwatsukiella leucotricha		X					
Kurzia makinoana		X					
Marsupella emarginata var. aquatics		X					
Orthodontium gracile			\mathcal{X}				
Racomitrium aquaticum		\mathcal{X}					
Rhizomnium nudum		\mathcal{X}					

Special Status Vascular Plant species searched for in Plentywater Creek Project

6840 (State Office list for Salem district) D=documented, S=suspected, U=unknown Type: v=vascular plant

Ref: references for: vascular plants, Hitchcock vol: page

SPECIES & STATUS	HABITAT	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
FEDERAL PROPOSED ENDANGERED	(FPE)					
Erigeron decumbens Nutt. var. decumbens Willamette daisy	WV; Bent, Clac, Lane, Linn, Mari, Polk, Wash, Yamh open places, seasonally wet prairies		June-July	v	5:174	S
FEDERAL PROPOSED THREATENED	(FPT)					
Lupinus sulphureus var. kincaidii (Smith) Phillips Kincaid=s lupine	WV, KM; WA; Bent, Doug, Lane, Linn, Mari, Polk, Wash, Yamh			v		S
FEDERAL THREATENED (FT)		•				
Castilleja levisecta Greenm. golden paintbrush	WV; Linn, Mari, Mult Wet or vernally wet meadows	<1000	April - Aug	v	4:310	S
Howellia aquatillis A. Gray	WV; Clac, Mari, Mult Shallow ponds and marshes	<200	May	v	4:491	S
Sidalcea nelsoniana Piper Nelson=s sidalcea	CR, WV; Bent, Linn, Mari, Polk, Till, Wash, Yamh on gravelly, well-drained soil		May-July	v	3:428	D
STATE ENDANGERED		•				
Cordylanthus maritimus Nutt ex Benth. ssp. palustris (Behr) Chuang & Heckard Salt marsh bird=s-beak	CR; Coos, Lane, Linc, Till			v	4:328	S
Delphinium leucaphaeum Greene white rock larkspur	WV; Clac, Mari, Mult dry bluffs, open ground, ditches & fencerow	<1000	May - early June	v	2:355	S
Delphinium pavonaceum Ewan peacock larkspur	WV; Clac, Mari, Mult, Bent, Polk roadsides, dry areas	<1500	May - June	v	2:362	S
STATE THREATENED	,					
Aster curtus Cronq. white-topped aster	WV; Clac, Linn, Mari, Mult. Prairies		July-Aug	v	5:80	S
Erythronium elegans Hammond & Chamb. Coast Range fawn lily	CR; Linc, Polk, Till open meadows to deep shade under conifers pink to white flowers	2500+	April-June	v	1:785	D
BUREAU SENSITIVE (BS)		•				
Agrostis howellii Scribn. Howell=s bentgrass	WC, WV; Mult moist rocks		June-Aug	v	1:469	U
Bolandra oregana S. Watson Oregon bolandra	WC; Mult (Columbia Gorge) moist mossy rocks usu. near waterfalls		May -June	v	3:3	S
Cimicifuga elata Nutt. tall bugbane	WV, WC: Clac, Linn, Mari, Mult Moist, cool, woods, north slopes, usu. assoc. w/ big leaf maple and sword fern	<2000	June-Aug	v	2:337	D
Corydalis aquae-gelidae Peck & Wilson cold-water corydalis	WC; Clac, Linn, Mari, Mult Cold springs and streams	>1000	Mid June-July	v	2:423	D
Cypripedium fasciculatum Kell. ex S. Watson clustered lady=s-slipper	KM, WC, BM; CA, CO, ID, MT, WA, WY; Bake, Curr, Doug, Jack, Jose			v		U
Delphinium oreganum How. Willamette Valley larkspur	CR, WV, WC; Bent, Clat, Linn, Mari, Polk			v	2:346	D

SPECIES & STATUS	НАВІТАТ	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
Dodecatheon austrofrigidum Chamb. ined. frigid shootingstar	CR; Clat, Till shallow soils deposited on basaltic bedrock by floodwaters, or among mosses & short herbs which colonize moist rock			v	4:40	D
Erigeron howellii A. Gray Howell=s daisy	WC; Clac, Mult Columbia Gorge moist & often rocky places		April-June	v	5:181	S
Erigeron oreganus A. Gray Oregon daisy	WC; Mult Columbia Gorge moist shady cliffs & ledges		July-Aug	v	5:185	U
Filipendula occidentalis (S. Watson) How. queen-of -the-forest	CR; Clat, Linc, Polk, Till full sun or partial shade, rock riverbanks just above high waterline, & rocky N-facing cliffs overlooking streams where seeps & crevices provide moisture		June - July	v	3:105	D
Horkelia congesta Douglas ssp. congesta shaggy horkelia	WV; Doug, Lane, Linn, Mari, Polk, Wash open sandy or rocky flats, sparsely wooded areas		April-June	v	3:117	S
Montia howelli S. Watson Howell's montia	CR, WV, WC; Clac, Linn, Mult rocky river banks esp. in disturbed sites	<2500	April - early May	v	2:240	S
Sullivantia oregana S. Watson Oregon sullivantia	WV, WC; Clac, Mult moist cliffs esp. near waterfalls		May-August	v	3:58	S
ASSESSMENT SPECIES (AS)			•			
Anemone oregana Gray. var. felix (Peck) C.L. Hitchc. bog anemone	CR; Linc, Polk moist wood to open hillsides, cool moist grassy areas with a high water table		May-Aug	v	2:329	D
Arabis sparsiflora Nutt. Var. atrorubens (Greene) Roll. Sickle-pod rockcress	WC; Mult		April-June	v	2:455	U
Botrychium minganense Vict. gray moonwort	WC, EC, BM, BR; CA, ID, WA; Bake, Croo, Gran, Harn, Hood, Linn, Unio, Wall, Wasc, Whee riparian zones w/ old-growth Thuja plicata, dense shade but also in meadows, alder thickets, shrublands, roadcuts			v	1:	U
Carex comosa Boott	WV; Colu, Jose, Mult marshes, lake shores, wet meadows		May-July	v	1:255	U
Carex livida (Wahl.) Willd. Pale sedge	CR, WC: Clac, Mult peat bogs, swampy woods	low		v	1:285	S
Carex macrochaeta C.A. Mey. Alaska long-awned sedge	CR, WC; Mult moist or wet open places often near beaches		June-Aug	v	1:289	S
Carex pluriflora Hulten many-flowered sedge	CR; Clat marshes, streambanks, boggy shores near the coast		June-July	v	1:311	S
Castilleja rupicola Piper cliff paintbrush	WC; Clac, Desc, Lane, Linn, Mari, Mult perpendicular cliffs and rocky slopes	4000- 7000 ft.	June-Aug	v	4:321	S
Cicendia quadrangularis (Lam.) Griseb. timwort	CR, KM; CA; Coos, Doug, Lane, Linn			v		S
Delphinium nuttallii A. Gray Nuttall=s larkspur	WC; Clac, Mult gravelly outwash Aprairies@, basaltic cliffs		May-June	v	2:360	S
Dryopteris filix-mas (L.) Schott male fem	CR, WC, BM, OU; CA, WA, ID; Bake, Colu, Malh, Umat, Unio, Wall, Wasc thickets, moist woods, streambanks			v	1:75	S
Erigeron peregrinus (Pursh) Greene ssp. peregrinus var. peregrinus wandering daisy	CR; Clat, Till moist meadows, streamsides, or bogs	mid-high	July-Aug	v	5:186	S

SPECIES & STATUS	НАВІТАТ	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
		, í	SEASON			
Eriophorum chamissonis C.A. Mey. russet cotton-grass	CR; Clat, Coos, Lane, Linc, Till swamps & other wet places in mountains	mid		V	1:361	S
Fritillaria camschatcensis (L.) Ker-Gawl	CR, WC; Linc, Mult, Polk moist areas near tideflats to wet mtn. meadows. Mid-elev. cool sphagnum bogs		May-July	v	1:791	D
Geum triflorum Pursh var. campanulatum (Greene) C.L. Hitchc western red avens	CR; Clat moister spots in sagebrush plains and low foothills to subalpine ridges and talus		April-Aug	v	3:115	S
Hydrocotyle verticillata Thunb. whorled marsh-pennywort	CR, WV; CA; Bent, Coos, Curr, Doug wet ground			v	3:535	S
Isopyrum stipitatum A. Gray dwarf isopyrum	CR, WV; Bent, Doug, Jack, Mari, Polk, Yamh shady areas		Feb-May	v	2:366	S
Lewisia columbiana (How.) Robins. var. columbiana Columbia lewisia	WC; Mult exposed gravel banks and rocky slopes		May-Aug	v	2:232	S
Lewisia columbiana (How.) Robins. var. rupicola (Engl.) C.L. Hitchc. Rosy lewisia	CR; Clat, Till		May-Aug	v	2:232	S
Limonium californicum (Boiss.) A.A. Heller western marsh-rosemary	CR; CA; Coos, Linc			v		S
Lycopodiella inundata (L.) Holub bog club moss	CR, WC, EC; Clac, Coos, Doug, Klam, Lane, Linc, Linn acid bogs and wet meadows			v		D
Lycopodium complanatum L. ground cedar	WC; Clac, Mari, Mult Moist forests	>3000		v	1:25	S
Microseris bigelovii (A. Gray) Sch. Bip. coast microseris	CR; CA, WA; Coos, Curr, Lane, Linc open, rather moist places		May-June	v	5:268	U
Poa unilateralis Scribn. San Francisco bluegrass	CR; Linc dunes, open facing cliffs			v	1:674	S
Scirpus subterminalis Torr. water clubrush	CR, WC; CA, ID, WA; Doug, Coos, Jack, Klam, Lane, Linc, Linn			v		U
Stellaria humifusa Rottb. creeping chickweed	CR; WA; Lane, Linc along coast esp. in salt marshes		June-Aug	v	2:306	D
Taushia stricklandii (Coult. & Rose) Math. & Const. Strickland=s tauschia	WC Mult meadows and moist slopes	high		v	3:585	U
Wolffia borealis (Hegelm.) Landolt & O. Wildi dotted water-meal	WV; WA; Bent, Lane, Polk			v		D
Wolffia columbiana Carst. Columbia water-meal	WV, WC; Clac, Linn, Mult aquatic			v	1:735	S
TRACKING SPECIES (TS)						
Abronia latifolia Eschsch. yellow sandverbena	CR; Clat, Coos, Curr, Doug, Lane, Linc, Till coastal beaches	low	May-Aug	v	2:222	D
Allium unifolium Kell. One-leaved onion	WV: Polk, Yamh (near Willamina) moist soils		May-July	v	1:758	S
Carex macrocephala Willd. ex Spreng. bighead sedge	CR; Clat, Coos, Doug, Linc, Till sandy beaches and dunes along coast		June-Sept	v	1:287	D

SPECIES & STATUS	НАВІТАТ	ELEV (FT)	BEST I.D. SEASON	ТҮРЕ	REF	6840
Cypripedium montanum Douglas mountain lady's-slipper	WV, WC, EC, BM; Jack, Jeff, Jose, Klam, Lake, Lane, Mari, Morr, Unat, Unio, Wall, Wasc, Whee dry to fairly moist, open to shrub or forest covered valleys or mountain sides	Low - mod	May - Aug	V	1:833	S
Darlingtonia californica Torr. California pitcher-plant	CR; Coos, Curr, Doug, Jose, Lane, Linc, Till bogs along coast and inland esp. by trickling streams		June-Aug	v	2:563	S
Douglasia laevigata A.Gray smooth-leaved douglasia	WC; Clac, Mari, Mult, Linn Rock crevices on wet cliffs. Talus slopes to rocky ledges	Mod - high	June - July	v	4:47	D
Elodea nuttallii (Planchon) H. St. John Nuttall=s waterweed	WC, WV; Colu, Lake, Lane, Mult fresh to slightly brackish water			v	1:152	S
Erythronium revolutum Smith coast fawn-lily	CR; Clat, Coos, Curr, Bent, Doug, Lane, Linc, Polk, Till, Yamh Along river banks or in edge of woods in open or mod. shade. More freq. near coast		April - May	V	1:790	D
Euonymus occidentalis Torr. Western wahoo	WV, WC; Clac, Mult			v	3:409	D
Huperzia occidentalis (Clute)Beitel= Lycopodium selago fir club moss	WC: Clac, Hood, Linn, Mari, Mult, Wall, Wasc humid exposed cliffs & talus slopes to streambanks & dense moist woods			V	1:27	D
Juncus kelloggii Engelm. Kellogg=s dwarf rush	WV; Colu, Hood, Jose, Linn, Mari moist banks damp areas in open fields, montane meadows, edge of vernal pools	mid	April-July	v	1:199	S
Lathyrus holochlorus (Piper) C.L. Hitchc. thin-leaved peavine thin-leaved peavine	WV; Bent, Clac, Lane, Linn, Mari, Polk, Yamh fencerows and partially cleared land		May-July	V	3:282	D
Montia diffusa (Nutt.) Greene branching montia	WV, WC; Clac, Linn, Mari, Mult moist woods, recently burned areas	<3500	April-July	v	2:239	D
Parvisedum pumilum (Benth.) Clausen sierra mock-stonecrop	WV; Mult?			v		
Poa laxiflora Buckl. Loose-flowered bluegrass	CR, WC; Clac, Mult, Bent. Moist woods to rocky open slopes.	Low	June	v	1:666	D
Poa marcida Hitchc. weak bluegrass	CR, WC; Clac, Clat, Linc,Mult, Polk, Till, Yamh Moist areas in coastal mountains		June - July	v	1:669	D
Rhinanthus crista-galli L. yellow rattle	CR; Clat, Till Meadows, fields, and moist slopes	various	June - Aug	v	4:411	S
Sidalcea campestris Greene meadow sidalcea	CR, WV; Clac, Linn, Mari, Mult fencerows and roadsides	<1000	Late June - July	v	1:426	D
Spirodela punctata (G. Meyer) C. Thompson dotted water-flaxseed	CR, WV?; Bent, Clat, Doug quiet water			v	1:735	
Synthyris schizantha Piper fringed synthyris	CR; Clat, Till moist, often shaded cliffs and ledges in the mountains		May-Aug	v	4:416	U
Vaccinium oxycoccuus L. Va	CR, WC; Clac, Linn, Mari, Mult. Sphagnum bogs	Low - mod	May - July	v	4:34	D
Verbena hastata L. Blue verbena	WV, WC; Clac, Mult			v	4:244	U

Vascular plant Survey and Manage species searched for in Plentywater Creek Project

<u>SPECIES</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
Vascular Plants						
Bensoniella oregana (California)	$\boldsymbol{\mathcal{X}}$					
Botrychium minganense	$\boldsymbol{\mathcal{X}}$					
Botrychium montanum	$\boldsymbol{\mathcal{X}}$					
Coptis asplenifolia	$\boldsymbol{\mathcal{X}}$					
Coptis trifolia	$\boldsymbol{\mathcal{X}}$					
Corydalis aqua-gelidae			$\boldsymbol{\mathcal{X}}$			
Cypripedium fasciculatum			X			
Cypripedium montanum			$\boldsymbol{\mathcal{X}}$			
Eucephalus vialis	$\boldsymbol{\mathcal{X}}$					
Galium kamstchaticum	$\boldsymbol{\mathcal{X}}$					
Plantanthera orbiculata			$\boldsymbol{\mathcal{X}}$			

ATTACHMENT J - 7: Noxious weed list

SCIENTIFIC NAME COMMON NAME BEST ID. SEASON

PRIORITY I SPECIES - POTENTIAL NEW INVADERS

Carduus pycnocephalus Italian thistle May - June

Carthamus lanatus distaff thistle

Carthamus leucocauloswhitestem distaff thistleCentaurea solstitialisyellow starthistleCentaurea virgatasquarrose knapweed

Chondrilla juncea rush skeletonweed mid July - Frost

Centaurea calcitrapapurple starthistleCentaurea ibericaIberian starthistleCarduus tenuiflorusslenderflower thistle

Lythrum salicaria purple loosetrife Aug. - Sept.

Silybum marianum milk thistle Late April - Early June

Linaria vulgaris yellow toadflax June-Sept

PRIORITY II SPECIES - ERADICATION OF NEW INVADERS

Centaurea diffusa diffuse knapweed July - Sept.

Centaurea maculosaspotted knapweedJuly - Oct.Centaurea pratensismeadow knapweedJuly - Oct.Ulex europarusgorseApril - Sept.

Linaria dalmatica dalmation toadflax

PRIORITY III SPECIES - ESTABLISHED INFESTATIONS

Cirsium arvensisCanada thistleJuly - AugCirsium vulgarebull thistleJuly - Sept

Cytisus scoparius Scotch broom May - June

Dipspacus sylvestristeaselJuly - OctHedera helixEnglish ivyyear round

Hypericum perforatum St. Johnswort June - July

Ilex aquifoliumEnglish hollyyear roundRubus discolorHimalayan blackberryyear roundRubus laciniatusevergreen blackberryyear roundPhalaris arundinaceareed canary grassJune - SeptPolygonum sachalinensegiant knotweedJune - Oct

Senecio jacobaea tansy ragwort July - Sept

Senecio sylvaticus wood groundsel June - Sept